DEPARTMENT OF THE ARMY
NORTH ATLANTIC DIVISION, CORP OF ENGINEERS
FORT HAMILTON MILITARY COMMUNITY
402 GENERAL LEE AVENUE
BROOKLYN, NY 11252-6700

IN REPLY REFER TO

February 4, 2014

CECC-NAD

FEDEX 2 DAY

Sharon Kivowitz, Esq.
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Office of Regional Counsel
U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, New York 10007-1866

Re: Notice of Potential Liability and Request for Information Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC sections 9607(a) and 9604(e), Related to the New Cassel/Hicksville Ground Water Contamination Superfund Site in the Towns of Hempstead, North Hempstead, and Oyster Bay in Nassau County, New York

Dear Ms Kivowitz::

I am writing in response to the June 31, 2013 letter from Ms. Nicoletta Di Forte concerning the above referenced request.

We have processed your request and performed a search of the Corps' records. "Attachment 1" contains responses to EPA's request for information based on that search. I am also enclosing a DVD that contains documents supporting our answers to EPA's questions. We did not search the federal archives, since that site contains publicly available information that EPA can access at any time.

I am only submitting responses to questions #3.c. through #18. I understand that Department of Energy (DoE) will submit answers to questions #1 through #3 and question #18. Ms. Beverly Kolenberg of your office agreed to this breakout of the responses last September.

Please contact me at 347-370-4524 if you have any additional questions.

178397

Sincerely,

Pat M. Falcigno
Assistant Division Counsel

Enc.
cc w/o enc:
Jennifer LaPaloma, EPA-2
Rachel Balaban, USA EDNY
J. Mcinerny, CENAE-OC
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New Cassel/Hicksville Ground Water Contamination Superfund Site
In Towns of Hempstead, North Hempstead and Oyster Bay, NC, New York
104e Response
USACE Response, 4 February 2014

1 To be answered by DoE.

2 To be answered by DoE.

3 To be answered by DoE.

-contract information responsive to question 3.c. that USACE used as basis for its responses:

The dates (month and year) that each such contract began and ended;

December 10, 1951-Jan 29, 1966 (AT(30-1)-1293).
1961-1962 contract C-225
Unknown dates:
C-223
AT(30-1)-366gen
AP-1100
AT(30-1)-2370
AO-1050 (sic)

References: AEC, 1961

4 Provide copies of all maps, building plans, floor plans, and/or drawings for each Property identified in response to question 2 above. Your response to this question should include, but not be limited to, providing existing and former plumbing, drainage system plans, waste-water discharge areas, tunnel sumps, dry wells, septic systems, and waste lagoons in proximity to or within all structures on each Property.

The USACE Master Site Plan, which is Figure 2 in the Preliminary Assessment, was compiled from readily available site data. Other pertinent figures are included in the USACE RI.
Reference: USACE 2005, USACE 2010

5 For each Property identified in question 2, above, describe in detail the manufacturing processes and or other operations conducted at each Property on behalf of the Department of Energy or any predecessor, and the years of operations. If those operations changed through the years, describe the nature of all changes, and state the year of each change. If detailed information about the Department or Energy operations is not available, provide, at a minimum, a general description of the nature the operations at each Property performed by contractors for or on behalf of the Department of Energy or any predecessor, the years of operation, the type of work conducted, and the estimated number or employees for the operations.

The majority of the work done on the 100 and 140 building properties at the site was done under the AEC 1293 contract from 1952-1965. Typical processes are as follows:

1. Cast ingot or derby was cleaned by acid pickling and dried.
2. The cleaned ingot or derby was hydrided to UH3 under hydrogen at 450 degrees Fahrenheit.
3. The hydride powder was decomposed at 900 degrees Fahrenheit to uranium metal powder under vacuum or inert gas.
4. The metal powder was blended and cold pressed into compacts.
5. The compacts were hot pressed at 630 degrees Celsius under vacuum to a solid uranium slug of specification density.
6. The pressed slugs were cooled, and then cleaned by acid pickling or surface grinding.
7. The ground slug was contour ground, and the end radii were machined.
8. The cleaned slugs were inspected and packed for shipment.

Later slug canning processes included nickel and aluminum plating. A procedure was evolved to solvent clean and acid clean bare metal before plating.

The majority of the work done on the 70 building property at the site was not done for DOE or its predecessors. A small portion of the work on the 70 property was done under AEC contracts from 1957-1966. Reference: USACE 2005

6 With respect to industrial wastes at each Property, list all industrial wastes that were used, stored, generated, handled or received at each Property. Your response to this question should include, but not be limited to, use, storage, generation and or handling of trichloroethylene (TCE), tetrachloroethylene (PCE), 1,1,1,tricholorethatne (111TCA) and other chlorinated or non-chlorinated solvents, as well as those substances listed on the chart below. Be as specific as possible identifying each chemical, and provide, among other things, the chemical name, brand name, and chemical content.

Substance	Yes or No
Trichloroethylene (TCE)	Yes
Tetrachloroethylene (PCE)	Yes
Cis-1,2-dichloroethylene	No
1,1-dichloroethylene	No
1,1,1-trichloroethane (1,1,1-TCA)	No
1,4 Dioxane	No
Carbon Tetrachloride	No
Chlorobenzene	No
Benzene	No
1,2 –dichlorobenzene	No
Methyl ethyl ketone (2-butanone)	No
Sis (2 ethyl hexyl) phthalate and Butyl phthalate	No
Chromium	No
Trivalent Chromium	No
Hexavalent Chromium	No
Vinyl Chloride	No
Arsenic	No
Barium	No
Cadmium	No
Chloride	No
Copper	No
Ferrous Iron and Total Iron	No

Lead	No
Manganese	No
Mercury	No
Nickel	Yes
Beryllium	No
Radionuclides Uranium and Thorium	Yes
Zinc	No

Perchlorethylene (PCE)

Trichloroethylene (TCE)-Due to its manufacturing association with PCE, TCE is also found as a site contaminant. USACE, however, has not been able to locate documentation to support the statement that TCE was used separately onsite.

Uranium (enriched, natural, and depleted), Thorium (natural), aluminum, and nickel were known to be used, stored, and handled as well.
Reference: USACE 2005

7 State when each industrial waste identified in your response to question 6, above was used, stored, generated, handled or received, and state the volume of each industrial waste used, stored, generated and or handled on an annual basis. If you do not have exact volumes, estimate and explain the basis of your estimate.
Uranium (enriched, natural, and depleted), Thorium (natural), aluminum, and nickel were known to be used, stored, and handled onsite during the AEC contract period of 1951 through 1965. Non AEC contract work was conducted from 1953 to 1967. USACE does not have exact information on these industrial waste volumes or on volumes handled annually, but incomplete documentation suggests the following:

Natural uranium use onsite began in 1952 and ended in 1966. Available 1293 contract documents indicate that at least 2.6 million kilograms of natural uranium metal was used, stored, and handled as part of that contract. The amounts of natural uranium used as part of other AEC and non AEC contract work are unknown.

Documentation suggests Enriched uranium use onsite began sometime after 1956 and ended in/before 1967. Volumes of enriched U used on site are difficult to estimate as licenses were for total amounts at one time (as material was shipped off more could be brought onsite). Special nuclear material licenses allowed for 6,850 kilograms of enriched uranium to be possessed at any one time. Based on a 1964

Sylvania letter to AEC at least 6,000 kg of enriched uranium were handled.

Documentation suggests use of depleted uranium onsite was significantly less than that of other forms of uranium and was handled during the site operating period. Volumes cannot be estimated but licensed documents indicate about 8,000 kilograms were handled.

Documentation suggests natural thorium use onsite was significantly less than that of uranium and thorium was first requested in Oct 1954. The 1293 contract was amended to include natural thorium use in 1961. Volumes cannot be estimated but licensed documents indicate about 10,000 kilograms were handled.

Documentation in USACE possession does not indicate volumes of other industrial wastes such as PCE/TCE, aluminum, and nickel used, stored, or handled. USACE cannot estimate volumes of these chemical industrial wastes.

USACE has estimated, from documentation available from GTEOSI, that GTEOSI generated approximately 65,000 cubic yards of material during their investigation and remediation effort from 1999-2004. USACE is not aware of the details of activities by GTEOSI after 2004.

Investigation Derived Waste (IDW) soil and water have been generated from 2007-present by USACE RI/FS field work investigations. See response to #10 for disposal details.

8 Describe the activity or activities in which each industrial waste identified in your response to questions 6 above, was used, stored, generated, and or handled or received
Inspection report from 27 February 1959 stated that degreasing 'is done in an electrically heated perchlorethylene vapor degreaser. Due to its manufacturing association with PCE, TCE is also found as a site contaminant. USACE has not been able to locate, however, documentation to support the statement that TCE was used separately onsite.
Reference: Baliff 1959

Uranium natural-Uranium natural was used for feed slugs for the Hanford reactor and plutonium production, and also for various fuel assembly components. See section 1.2.3.1 of the RI for additional information.
Reference: Kingston 1954

Uranium depleted-Was not used for work related to AEC contract work that USACE could determine-Uranium depleted was used under licensed/commercial work, primarily for the construction of and/or research related to nuclear elements.
Reference: AEC, 1961

Uranium enriched-Was not used for work related to AEC contract work on the 100 and 140 building properties that USACE could determine-Uranium

enriched was used to a much lesser extent than uranium natural. Sylcor had AEC contracts to fabricate 1000 fuel elements containing 93% enriched uranium over a one year period for the Phillips Petroleum company under contract C-225. Sylcor also has a contract to fabricate 500 fuel plates, 93% enriched for Spert IV under contract C-223.
Reference: AEC, 1961

Thorium natural-Thorium was used to a much lesser extent than uranium natural, and was primarily for the construction of and/or research related to nuclear elements. See section 1.2.3.1 of the RI for additional information.

Aluminum and nickel electroplating-Some of the elements produced by both the licensed and non-licensed work were coated with nickel or aluminum to improve the corrosion resistance and decrease oxidation and diffusion of uranium metal.
Reference: USACE 2005

9 For each substance listed in the chart on the following page, state whether it was detected in sampling performed at the Property at any time. If your answer is Yes, on a separate sheet, provide the identity of the study, the investigator, the date of the study, specifically where on the Property and by whom the sampling was performed.

TCE, PCE, Nickel, Thorium (natural), Uranium (natural, enriched, and depleted) were all detected in sampling performed at the Property. All are identified in the September 2010 Final Remedial Investigation for the Sylvania Corning FUSRAP Site, Hicksville, New York performed by the US Army Corps of Engineers from 2006-2010. Also included in this RI Report are the results of previous studies by other entities. The complete listing of studies is included on pages 1-10 thru 1-17 of the USACE RI and covers the time period 1965 thru 2009.
Reference: USACE 2010

10 Describe in detail how and where the industrial wastes identified in response to question 6 above were disposed. For each disposal location and method, state the nature and quantity of the material disposed of on an annual basis. For those time periods when a precise quantity is not available, provide an estimate and the basis for the estimate. Provide manifests for disposal if available.

Records of waste disposal when GTEOSI's predecessors were operating the plant are something that USACE has not been able to locate in entirety. What we have found shows that some radioactive materials were sent to other DOE activities. We also have found documentation that GTEOSI's predecessors burned some uranium scrap onsite. Further, we do know from reviewing documentation available to USACE that GTEOSI's predecessors discharged liquid wastes to the ground via sumps and leach pools. Investigation Derived Waste (IDW) and excavated materials were generated during the GTEOSI investigations and remediations and the USACE has identified that the radioactive contaminated materials were disposed of at Energy Solutions Utah. The

USACE does not know how water or soils impacted by chemicals only (from the GTEOSI work) was disposed.
USACE IDW has been generated since 2007 and is summarized below:

USACE Phase I did not generate any IDW.

USACE Phase II generated IDW, primarily soil but included some pipes, a crushed drum, concrete cores, gloves, and plastic sheeting. All material was disposed of in drums to US Ecology Idaho. Profiles and manifests are attached and a summary is below.

Date	Facility	Material	Quantity
15 Dec 2008	US Ecology Idaho (USEI)	Primarily soil, non-haz	133 55-gallon drums
15 Dec 2008	USEI	Crushed lead lined drum, some soil, shipped as hazardous	1 55-gallon drum

Phase II also generated some potentially enriched material that was disposed of separately. The manifest is attached and the event is summarized below.

Date	Facility	Material	Quantity
23 Aug 2013	USEI	Non-hazardous soil-Special Nuclear Material	16 55-gallon drums

Phase IIIa generated IDW, water. The team used three 20,000 gallon frac tanks to containerize the water. Also generated were 20 drums (1,005 gallons) of water when sludge water and solids were separated. The manifest for this disposal is attached and a summary is below.

Date	Facility	Material	Quantity
25-26 Aug 2009	Clean Water of NY	Drill and GW purge water	47,163 gallons
09 Sep 2009	Clean Water of NY	Separated sludge water	1,005 gallons

Phase IIIb generated water and soil IDW. Manifests are attached and a summary is below.

Date	Facility	Material	Quantity
11-22-10	USEI	26 ppe/debris, 15 concrete, 30 empty-non hazardous waste	71 55-gallon drums
11-24-10	USEI	Non hazardous waste (soil)	1 roll off
11-24-10	USEI	Non hazardous	1 roll off

		waste (soil)	
12-3-10	USEI	Non hazardous waste (soil)	1 roll off
11-16-10	Dupont, Deepwater NJ	Non hazardous waste (water)	1 frac tank-5155 gallon
11-16-10	Dupont, Deepwater NJ	Non hazardous waste (water)	1 frac tank-5427 gallon
11-16-10	Dupont, Deepwater NJ	Non hazardous waste (water)	1 frac tank-5800 gallon
11-17-10	Dupont, Deepwater NJ	Non hazardous waste (water)	1 frac tank-5100 gallon
11-17-10	Dupont, Deepwater NJ	Non hazardous waste (water)	1 frac tank-5750 gallon
11-17-10	Dupont, Deepwater NJ	Non hazardous waste (water)	1 frac tank-5000 gallon
11-17-10	Dupont, Deepwater NJ	Non hazardous waste (water)	1 frac tank-2485 gallon
11-17-10	Dupont, Deepwater NJ	Non hazardous waste (water)	1 frac tank-2111 gallon

The offsite field work phase of the USACE Sylvania work has generated both soils and water IDW. Manifests are provided for this disposal and the details are summarized below.

Date	Facility	Material	Quantity
12-19-11	Clean Water of NY	Non hazardous waste (water)	1 frac tank-5904 gallon
12-19-11	Clean Water of NY	Non hazardous waste (water)	1 frac tank-5989 gallon
2-13-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-6142 gallon
2-13-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-5526 gallon
2-13-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-5816 gallon
3-6-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-6142 gallon
3-6-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-6068 gallon
3-6-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-6058 gallon
3-16-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-2620 gallon
3-15-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-6210 gallon
3-15-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-5904 gallon
3-15-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-6271 gallon
9-14-12	Clean Water of	Non hazardous	1 frac tank-4990

	NY	waste (water)	gallon
9-19-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-2515 gallon
9-19-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-5989 gallon
9-18-12	Clean Water of NY	Non hazardous waste (water)	1 frac tank-5626 gallon
12-20-11	Clean Water of NY	Non hazardous waste (water)	1 frac tank-5466 gallon
5-16-12	Pure Soil Technologies	Non hazardous waste (soil)	1 roll off
5-17-12	Pure Soil Technologies	Non hazardous waste (soil)	1 roll off
5-23-12	Pure Soil Technologies	Non hazardous waste (soil)	1 roll off
5-24-12	Pure Soil Technologies	Non hazardous waste (soil)	1 roll off
9-20-12	Pure Soil Technologies	Non hazardous waste (soil)	1 roll off
9-26-12	Pure Soil Technologies	Non hazardous waste (soil)	1 roll off
9-20-12	Pure Soil Technologies	Non hazardous waste (soil)	1 roll off
12-21-12	Pure Soil Technologies	Non hazardous waste (soil)	1 roll off

11 Describe where drummed wastes and or contaminated soils were staged on the property. If drums and or contaminated soils were buried on the Property, identify where they were buried. If buried drums and or contaminated soils were excavated and removed, identify the locations of the drum or soil removal. Provide an inventory of the number of drums, the contents of the drums, the volume and composition of the soils and the disposal site for such drums and soils. For drums disposed of off the Property, provide manifests for their disposal, if available.

USACE materials identified in question 6, all IDW, have been staged in the back 2 warehouse portions of the 70 building on the property. Our research indicates that GTEOSI staged their materials during their investigations and remediation in the 100 building.
In 1987, thirty buried drums and some contaminated soils were discovered on the current 70 property during construction by that property owner. In total, 57 drums and 90 cubic yards of soils were removed. The source of those drums is unknown. See USACE RI page 1-11 for details.
Reference: USACE 2010

12 State the number and the locations of the underground storage tanks (UST) at each property from the 1950s to present. For each UST, state

whether it was used for storage of product, storage or treatment of hazardous waste and or industrial waste. State whether the USTs were in compliance with the hazardous waste regulation set forth in 40CFR Part 264/265. If any USTs contained petroleum product, state whether these USTs were in compliance with the regulations at 40CFR Part 280.

The USACE RI discusses two separate USTs in section 1.2.4. GTEOSI 2004-UST was removed from Cell 2 during remediation program. Tank was encountered at four feet BGS and contained approximately 875 gallons of sludge and liquid.

NYSDEC May 2005-A 2,500 gallon UST was encountered by NYSDEC during investigations of the 100 property. This UST is also discussed in GTEOSI 2005. That reference states that a 2,500 gallon UST was encountered in subcell L17 during remediation. Approximately 150 gallons of liquid and 250 gallons of sludge were found in the UST. UST was solidified in place.

Figure 1.2-2 in the USACE RI identifies three historic USTs. Two of the USTs in the figure correspond to the USTs discussed above. USACE does not have details about the other UST (located in GTEOSI cell 10. See USACE RI Figure 1.2.3) to include when it was installed, removed, or what it held.
Reference: USACE 2010

13 Provide a summary listing of environmental assessments or studies, investigations, removal actions, remedial activities, or any other environmental work conducted by the Department of Energy's or any predecessor or by any other party on the Department of Energy's behalf relating to industrial wastes released at or from each Property and or the Site. If any copies of the records requested in this question are available electronically, kindly submit your answer to this question on a hard drive or discs.

USACE 2005. US Army Corps of Engineers, Sylvania Corning Plant/Former Sylvania Electric Products Facility (A.K.A. SYLCOR) Site Preliminary Assessment. May 2005.

USACE 2010. US Army Corps of Engineers, Final Remedial Investigation for the Sylvania Corning FUSRAP Site. September 2010.

14 Describe in detail any knowledge of the Department of Energy or any predecessor has about intentional or unintentional disposal of industrial wastes at each Property identified in response to question 2 above. Your response should include instances in which industrial wastes were spilled or otherwise disposed into lagoons, historic leach pools, or into or onto the ground from septic systems, pipes, drains, drums, tanks, or by any other means. Provide copies of all documents relevant to your response.

USACE has found that GTEOSI's predecessors discharged process wastes from the site to on-site sumps and leaching pools, which was a commonly accepted waste disposal practice of the era. The example process associated with the non-licensed work at the site includes information that liquid effluents flowed into a sump pond and former sump.
Reference: USACE 2005

15 Identify all leaks, spills, or releases of any kind of any industrial wastes (including, but not limited to TCE and PCE or other chlorinated or non-chlorinated solvents or wastes containing such solvents) into the environment that have occurred, or may have occurred, at or from each Property, including any leaks or releases from drums and other containers. Provide copies of all documents relevant to your response.

USACE has not identified any leaks or spills. The release of liquid effluents is discussed above in #14.

16 Explain whether any repairs or construction were implemented to address any leaks, spills, releases or threats of releases of any kind, the nature of the work and the dates of any such work,

As per the answer to #15 above, USACE has not identified any leaks, spills, releases, or threat of releases that had a repair or construction related to them.

17 State the names, telephone numbers, and present or last known addresses of all individuals whom you have reason to believe may have knowledge, information, or documents regarding the use storage, generation, disposal or industrial wastes at the site, the transportation of such materials to the Site, or the identity of any companies whose material was treated or disposed of at the Site.

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18
Please state the name, title, and address of each individual who assisted or was consulted in the preparation of your response to this Request for Information. In addition, state whether each person has personal knowledge of the answers provided.

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References:

a. USACE 2005. US Army Corps of Engineers, Sylvania Corning Plant/Former Sylvania Electric Products Facility (A.K.A. SYLCOR) Site Preliminary Assessment. May 2005.

b. USACE 2010. US Army Corps of Engineers, Final Remedial Investigation for the Sylvania Corning FUSRAP Site. September 2010.

c. AEC, 1961. Excerpt May 1961 Inspection Report. Details of March 13-14, 1961 Part 70 Inspection (conducted by John R Sears and Paul B Klevin of the New York Operations Office) of the Activities Related to Use of Special Nuclear Material. May 1961.

d. Baliff 1959. Jack Baliff and Irving Kingsley, New York City Division of Industrial Hygiene. Inspection of Sylvania Corning Nuclear Corp Cantiague Road, Hicksville, NY. June 11, 1959.

e. Kingston 1954. W.E. Kingston, Sylvania Electric Products. Amendment No 1 to Appendix B Dated December 7, 1953 to Contract No AT.30.1.1293 Dated December 10, 1951. January 13, 1954.